

# Little River Band of Ottawa Indians Hazard Mitigation Plan

November 17, 2021



**Networks  
Northwest**

Talent / Business / Community



# Welcome

- Thank you for joining us!
- We will
  - Identify purpose and process
  - Have an open discussion
  - Present results of the Community Survey



# Introductions

- Networks Northwest Staff
  - Jennifer Neal, AICP
  - Stephanie Loria
- Tribal staff and community members



# Purpose

The Natural Hazard Mitigation Plan identifies natural disaster risks and vulnerabilities to the LRBOI community, develops long-term strategies for protecting people and property from similar events, and establishes a coordinated process to implement the plan.

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## Billion-Dollar Disasters Shattered U.S. Record in 2020

The 22 events that each caused at least \$1 billion in damage show the increasing costs of climate change

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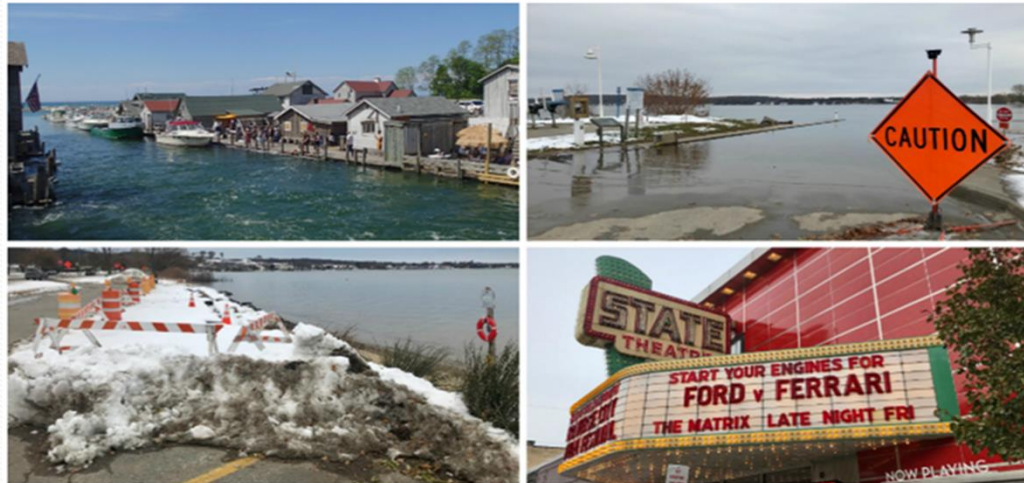
By Thomas Frank, E&E News on January 11, 2021



An aerial view of flood waters from Hurricane Delta surrounding structures destroyed by Hurricane Laura on October 10, 2020 in Creole, Louisiana. Credit: Mario Tama Getty Images

# Project Timeline

● Now through December 2023



## From Fishtown To State Theatre, High Waters Wreak Havoc - With Trend Likely To Continue

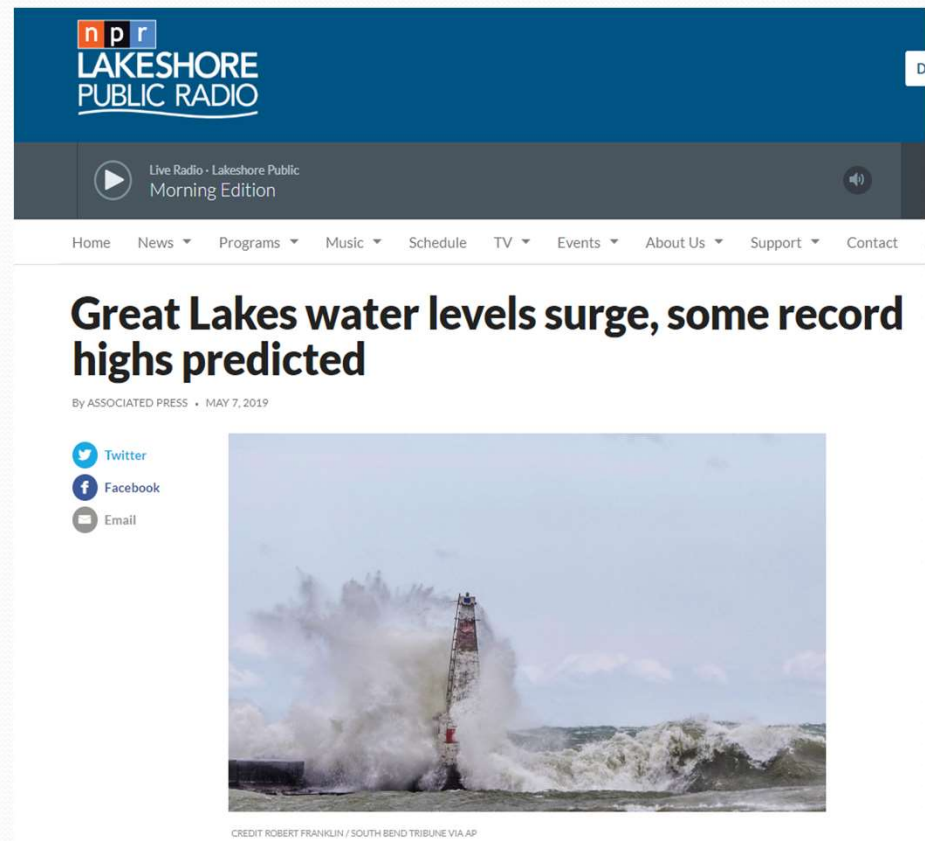
By Beth Milligan | Nov. 18, 2019

The impacts of near-record lake levels will continue to be felt this winter, with major repair projects needed at sites ranging from Fishtown to the State Theatre, planning



# Community Involvement and Engagement

- LPT meetings
- Public engagement
- Community Survey





# Steering Committee Members

First Name	Last Name	Title
Brandy	Martin	Incident Commander
Bill	Willis	Budget Coordinator
Robert	Robles	Public Safety
Gary	Lewis	Utilities Director
Jay	Sam	Historic Preservation
Steve	Parsons	BIA Roads/Planning Coordinator
Allison	Smart	Natural Resources
Tara	Bailey	Housing Director



# Align with other Plans

## ● Guiding Principles

- Promote and exercise sovereignty
- Establish a community identity
- Maintain the natural corridors and patterns and weave them into the plan
- Keep cultural preservation a main priority
- Diversify the economy
- Be an advocate for lands within the Reservation's Boundaries
- Celebrate agriculture
- Provide Tribal Services in different locations
- Promote and strengthen family wellness in a cultural context



**Little River Band of Ottawa Indians**

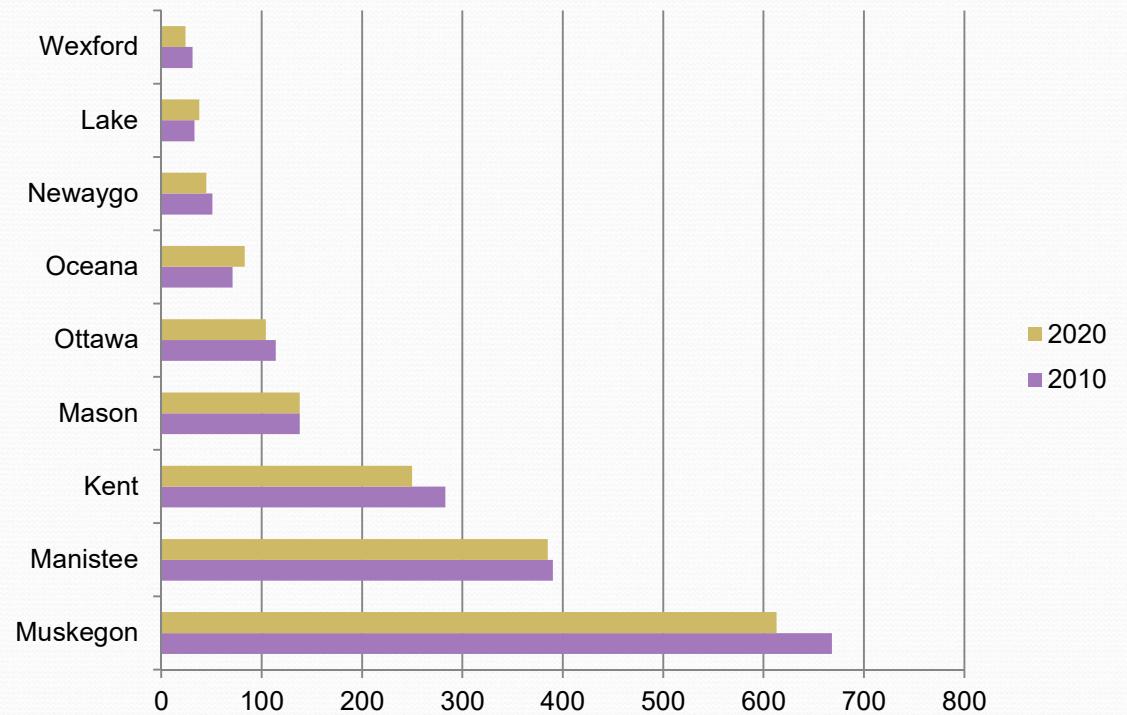
**Future Land Use Plan**

**Adopted September 14, 2005**



# Membership

County	2010	2020
Muskegon	668	613
Manistee	390	385
Kent	283	250
Mason	138	138
Ottawa	114	104
Oceana	71	83
Newaygo	51	45
Lake	33	38
Wexford	31	24
<b>Total</b>	<b>1779</b>	<b>1680</b>
<b>TOTAL</b>	<b>4062</b>	<b>4069</b>



# Membership Change

County	2010	2020	Membership Change
Muskegon	668	613	-9%
Manistee	390	385	-1%
Kent	283	250	-13%
Mason	138	138	0%
Ottawa	114	104	-10%
Oceana	71	83	14%
Newaygo	51	45	-13%
Lake	33	38	13%
Wexford	31	24	-29%
Total	1779	1680	-6%
TOTAL	4062	4069	0.2%



# Age

County	2010		18-54	18-54%	Elders (55+)	55+ %	Total	0-54 %
	0-17	0-17 %						
Kent	37	13%	189	67%	57	20%	283	80%
Lake	0	0%	22	67%	11	33%	33	67%
Manistee	44	11%	250	64%	96	25%	390	75%
Mason	31	22%	74	54%	33	24%	138	76%
Muskegon	84	13%	435	65%	149	22%	668	78%
Newaygo	2	4%	31	61%	18	35%	51	65%
Oceana	10	14%	48	68%	13	18%	71	82%
Ottawa	21	18%	74	65%	19	17%	114	83%
Wexford	2	6%	23	74%	6	19%	31	81%
	231		1146		402		1779	
	2021		18-54	18-54%	Elders (55+)	55+ %	Total	0-54 %
	0-17	0-17 %						
Kent	16	6%	157	63%	77	31%	250	69%
Lake	5	13%	17	45%	16	42%	38	58%
Manistee	40	10%	182	47%	165	43%	387	57%
Mason	25	18%	56	41%	55	40%	136	60%
Muskegon	39	6%	347	57%	226	37%	612	63%
Newaygo	0	0%	15	33%	30	67%	45	33%
Oceana	6	7%	53	64%	24	29%	83	71%
Ottawa	1	1%	74	71%	29	28%	104	72%
Wexford	1	4%	11	46%	12	50%	24	50%
	133		912		634		1679	



# Other Demographics

- Disability
- Primary language(s) spoken





# Economic

- Income levels
- Characteristics of the workforce
- Access to services
- % of population requiring access to services
- Economic generators and
- Economic impact of COVID 19



# Housing

- Number of Units
- Location of homes
  - Existing single-family and multi-family units
  - Sites identified for new housing  
(2021 Strategic Plan)
- Age of structures





# Structures and Sites

- Historic Preservation
- Emergency Services
- Utilities and Energy
- Other important cultural structures or sites
- Zoning Ordinance – existing and future land uses (2005 Future Land Use Plan)
- Protection ordinances



# Natural Resources

- Key natural features identified
- Sensitive native species
- Sensitive habitats (wetlands, grasslands)
  - NRD Wetland Program
- Sites creating challenges (flooding, exposure)
- Agreements with other entities for site protections



# LRBOI Property

● Total Acres

● Counties

● Kent

● Lake

● Manistee

● Mason

● Muskegon

● Newaygo

● Oceana

● Ottawa

● Wexford

Location	Acreage	
	Trust	Non-Trust
Land Within 1836 Reservation Boundary	1002.9	1254.2
Land Within 1855 Reservation Boundary	639.5	0
Sub-total	1642.4	1254.2
Land outside reservation in Manistee County	65.1	204.3
Sub-total	65.1	204.3
Total	1707.5	1458.5

# LRBOI Hazard Mitigation Community Survey Responses

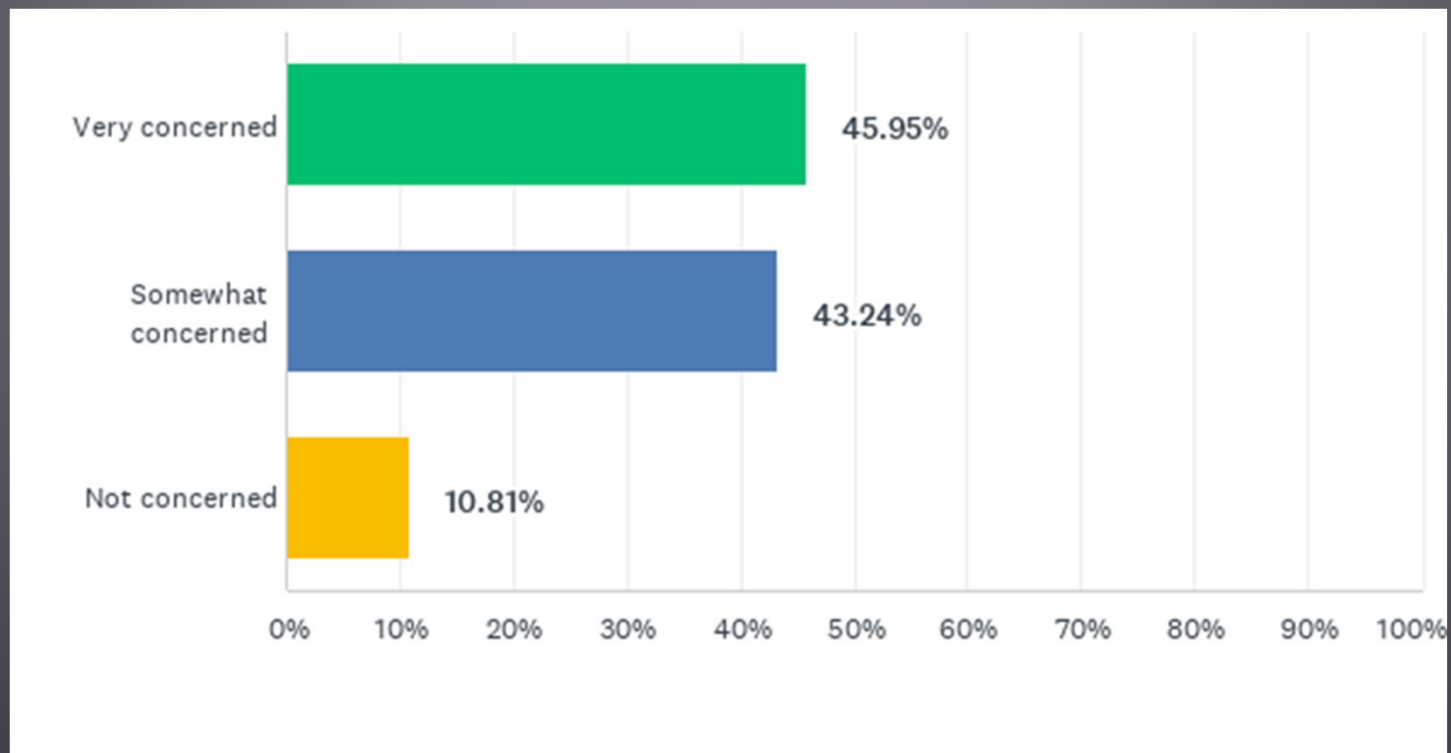
36 Responses from 10/6/21 to 11/12/21

Representation:

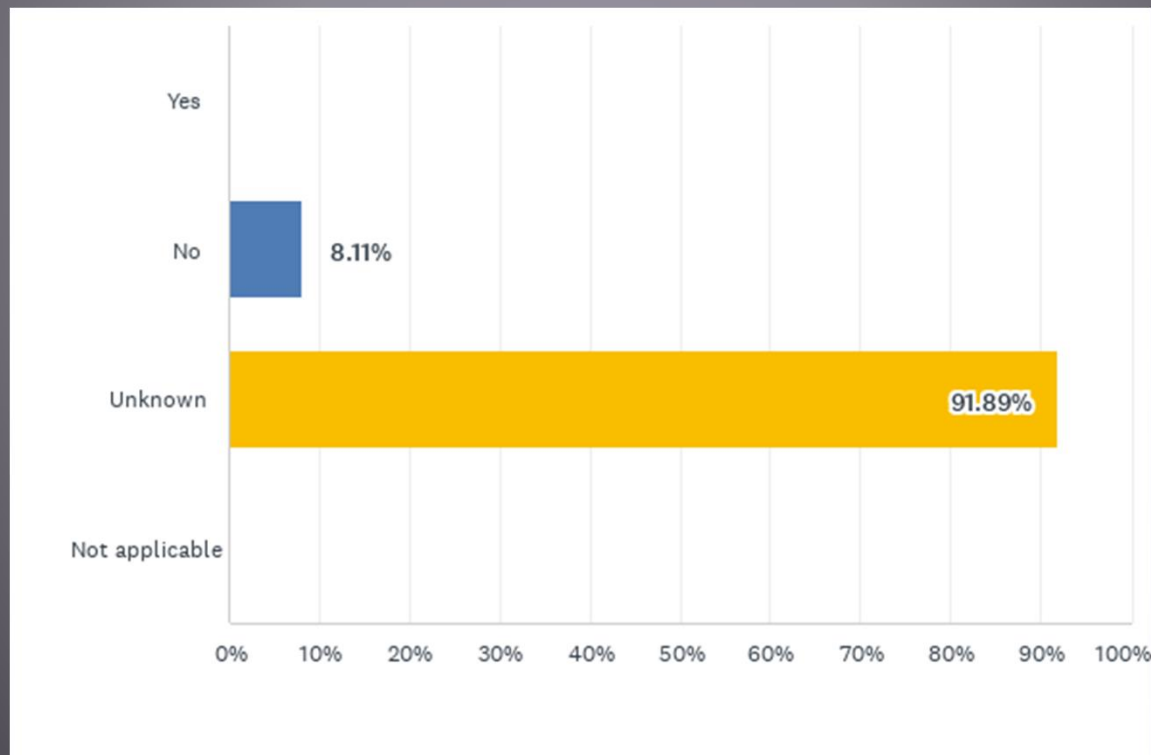
Tribal Government Employees and Citizens/Tribal Members	
Police Chief	Utility Director
Police Detective	Utility Operator WWTP
Surveillance Officer	Program Specialist
Tribal Councilor	Legislative Assistant
Tribal Probation Officer	Pharmacy Tech
Also: Neighboring County Emergency Management Coordinator (Mason County)	



# How concerned are you about future natural hazard events impacting your community?

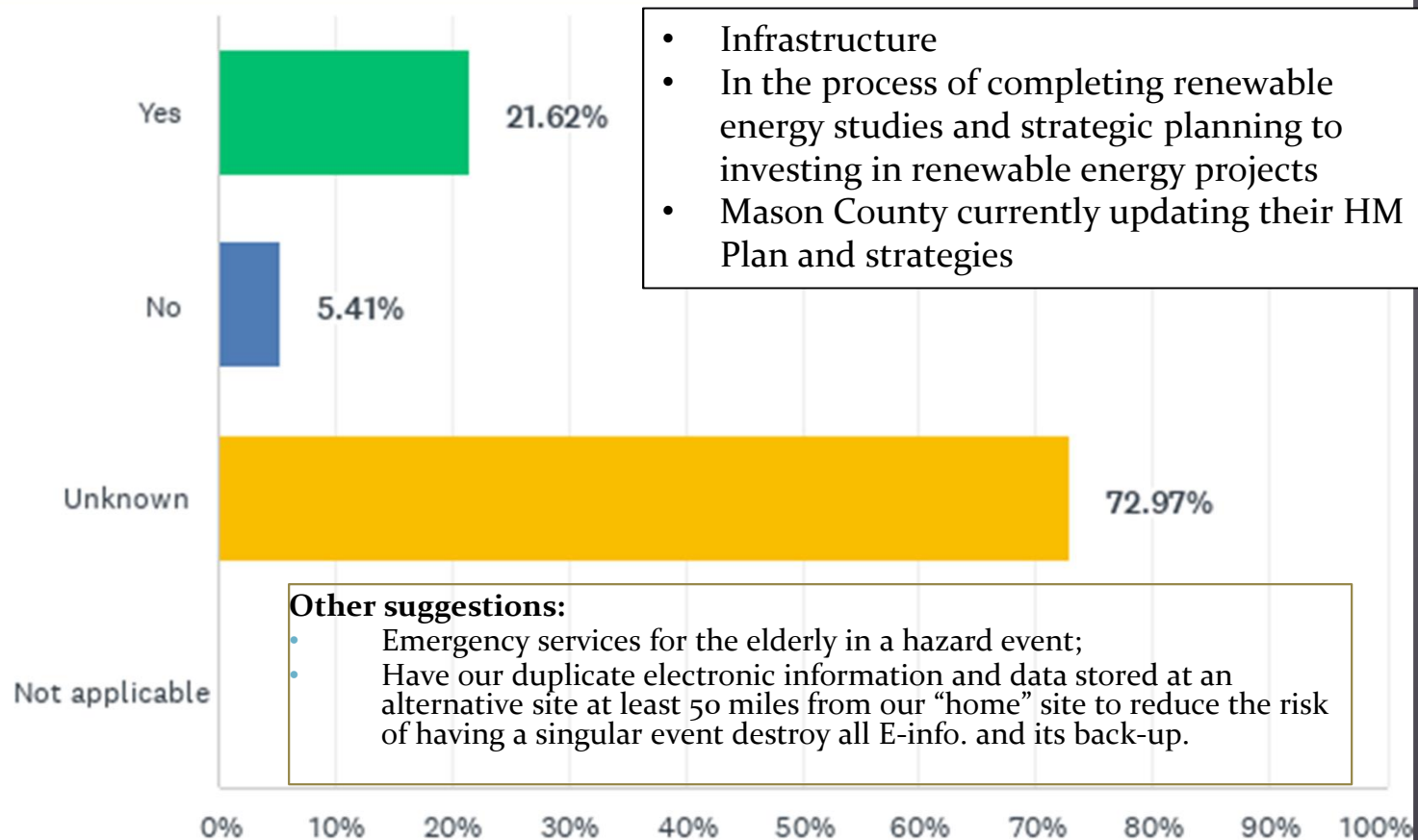


# Has your community requested assistance for mitigation projects in the past?





# Has your community considered mitigation strategies for potential or current hazards?



What type of natural hazard events are likely to have the largest impact on your community (for example fire, flood, drought, illness outbreak, etc.)?

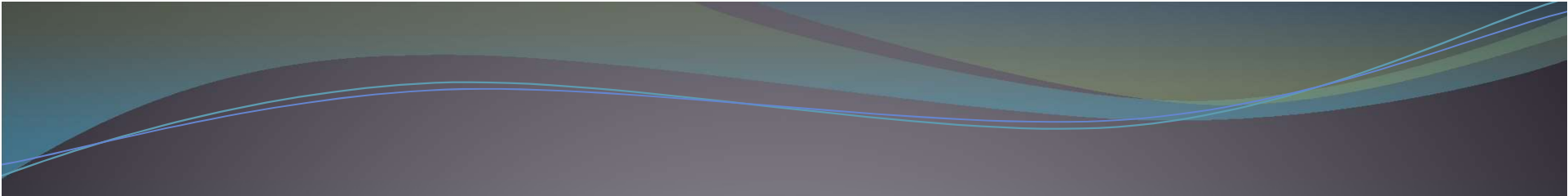
winds severe weather Storms damage fire dam  
illness outbreak possible flood drought illness  
snow storms tornadoes

### ALSO MENTIONED

Electrical outage  
Power loss to unprotected lift stations  
Flood with corresponding dam failures  
Water contamination  
Air pollution  
Lack of outbreak resources  
Extreme seiche event

PFAS, oil or  
chemical spills oil  
product spill, train  
derailment,  
possible threat  
attacks

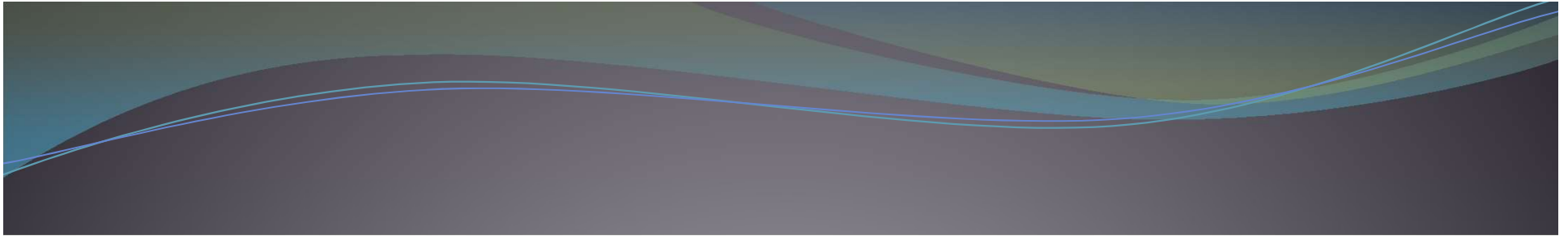




Q4 Does your community have concerns about infrastructure (dams, bridges, utilities, etc.) and the potential for a hazardous event in the future? Please describe.

needs need repair Utilities systems Yes failure infrastructure cause  
bridges sewage dams areas old aware Water Tippy dams concern

- **Storms causing loss of power** at sewage lift stations – drinking water contamination/disease risk. **Back-up generators** would be a good idea
- LRBOI is downstream of the **Hodenpyl and Tippy dams**. They are aging. Failure of these dams would cause widespread flooding.
- Infrastructure in some areas is getting **old, is not designed for climate change, and is not as strong as it should be, or updated**. **Maintenance** is occurring in some areas now, but it is an **ongoing process**.
- **Undersized bridges and culverts**. Many of the County's drainage systems have been impacted in recent years with flash flooding.
- **Manistee's two draw bridges** may be damaged during a severe storm. **Traffic needs to flow** through those two areas to get from one side to the other.
- **Repair of roads and bridges** used by vehicles and railcars.
- **No annual infrastructure assessments or inspections done** on our roofs, windows, etc.
- ❖ The Tribe works with Cons. Energy on [planning/prevention of a] dam failure or flood as most of the community would be flooded should this happen
- ❖ The Tribe has processes in place for utility disasters, vulnerability assessment, water and sewer issues.



Q5 Does your community have concerns that a natural hazard event in the future would require investment in new and/or upgraded infrastructure and technology? (I.e., renewable energy, improved stormwater management, internet/cellular, etc.)

need concerns internet water  
renewable energy improved yes sure  
internet cellular

- Solar panels to generate electricity; electrical generators
- Internet and cellular booster – poor cellular service at this time
- Backup generators should be installed at all waste water lift stations
- Concern with elders losing power in storms
- Access to emergency support and relief in a natural hazard event
- Storm water management to handle high precipitation events; fluctuations in Lake MI levels have prompted the need for upgraded infrastructure for water treatment and shoreline erosion prevention



# Have there been any negative impacts on the public health and/or natural environment of your community that you attribute to climate change?

1/3 of respondents indicated yes; 2/3 indicated no or unsure.

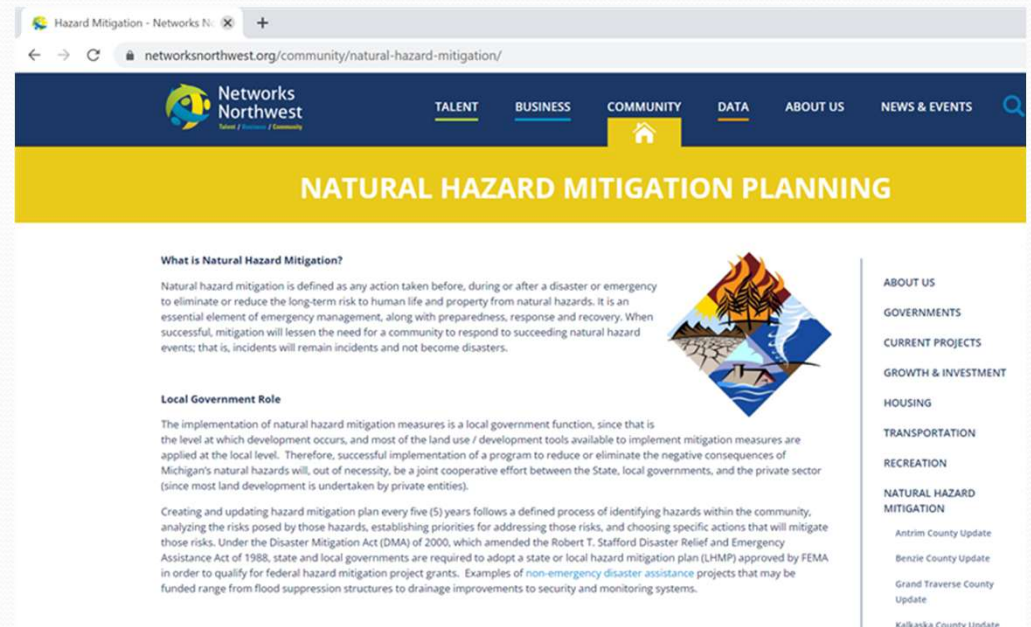
- Weather related impacts cause more than just physical or structural damage
- Decline in wetlands
- Increased fire damage/wildfire frequency and severity
- Wildfire smoke particulates from fires out west impacted our air quality
- Negative impacts to many animal species including some culturally significant species
- Milder and dryer winters increases the spread of invasive pests and diseases in the environment (Hemlock wooly adelgid spread)
- Erratic precipitation patterns; periods of drought which impact native plant and animal species (i.e., drought in Spring 2021 was followed by an unusually wet summer, which negatively impacted wild rice populations).
- Water tables rising and falling
- Shoreline erosion
- Hotter summers
- Mason County has responded to several severe storms that have impacted the community, placing a strain on the community's emergency response network.

# Is there any additional information you would like us to consider as we update the Tribe's Natural Hazard Mitigation Plan?

- Have a plan that is realistic, do-able and easy to follow by the people who will implement the plan.
- Infrastructure
- LRBOI NRD's progress on their Wetland Program that is working to map and monitor wetlands on Tribal properties. Wetlands are key to mitigating floodwater surges and need to be protected and restored.
- Severe winter storms – ice/snow
- The impact on employees who must come to work during a severe weather event
- Considering Tribal values and the importance of game and non-game species to the community.
- Cultural properties and impacts
- Native plant and animal species
- Safety over profits, please

# Next Steps

- Identify potential Advisory Team members
- Solicit additional Community Survey responses
- Establish web presence at [nwm.org/HazardPlan](http://nwm.org/HazardPlan)
- Prepare community profile and hazard analysis
- Next group meeting







# Thank you!

● Any questions??